

Coastal Pelagic Species Fishery Management Plan History

The current CPS FMP evolved from the Northern Anchovy FMP, which went into effect in 1978. In 1995, the Council decided to develop a plan for the entire CPS fishery. The new plan went into effect in 1999. Amendment 9, which dealt with bycatch and Indian fishing rights, went into effect in 2001; and Amendment 10, which establishes a maximum fleet capacity for the CPS fishery, went into effect in 2003. This amendment allows the transfer of limited entry permits to vessels and/or individuals as long as the second vessel is of comparable capacity, and establishes criteria for issuing new permits if economic or resource conditions indicate that such permits would be beneficial. Amendment 10 requires specific actions to maintain the fleet capacity. Transferability gives holders of limited entry permits flexibility in their fishing operations. The amendment also defines maximum sustained yield (MSY) for market squid.

Recent Amendments

Amendment 11 – Long Term Sardine Allocation

In 2003, the Council began developing options for a new allocation framework for the coastwide Pacific sardine fishery. This revision will occur through Amendment 11 to the CPS FMP in 2006. The amendment is intended to achieve optimal use of the resource and equitable allocation of harvest opportunity.

In June 2005, the Council adopted a long-term framework to allocate the annual Pacific sardine harvest guideline among the various non-tribal sectors of the sardine fishery. The Council followed the unanimous opinion of the Coastal Pelagic Species Advisory Subpanel (CPSAS) to provide the following allocation formula:

1. January 1, 35% of the harvest guideline to be allocated coastwide;
2. July 1, 40% of the harvest guideline, plus any portion not harvested from the initial allocation, to be reallocated coastwide; and
3. (3) September 15, the remaining 25% of the harvest guideline, plus any portion not harvested from earlier allocations, to be reallocated coastwide.

To address the dynamic nature of the Pacific sardine resource and uncertainties inherent in long-term projections, the Council scheduled a formal review of the allocation formula in 2008. This review will compare the performance of the fishery in the first two years to the projections used to evaluate the adopted allocation scheme, and will include any new information from Pacific sardine research.

Amendment 12 – Krill Harvest Ban

In March 2006, the Council adopted a complete ban on commercial fishing for all species of krill in West Coast federal waters and made no provisions for future fisheries. This broad prohibition applies to all vessels in Council-managed waters. The Council also specified essential fish habitat for krill, making it easier to work with other federal agencies to protect krill. NMFS has approved Amendment 12 and issued a final rule and Federal regulations in July of 2009.

Krill (*euphausiids*) are small shrimp-like crustaceans that serve as the basis of the marine food chain. They are eaten by many species of fish managed by the Council, as well as by whales and seabirds. Although there was no fishery for krill in Council waters, krill are fished in Antarctica, Japan, and off the west coast of Canada. They are used in aquaculture and livestock feed and for fish bait and pet foods.

A krill harvest ban was first proposed for West Coast National Marine Sanctuary waters by the National Marine Sanctuary Program and was expanded to the entire EEZ by the Council in recognition of the importance of krill as a fundamental food source for much of the marine life along the West Coast. State

laws prohibit krill landings by state-licensed fishing vessels into California, Oregon, and Washington, respectively. Thus, the action could provide for consistent federal and state management.

Management Issues

Industry Sponsored Aerial Survey and Exempted Fishing Permits. In 2009, the Council approved an EFP for an industry sponsored aerial survey of Pacific sardine abundance from Cape Flattery to Monterey, California. Aerial photographs of Pacific sardine schools coupled with representative capture of schools with purse-seine gear were used to generate an abundance estimate that was ultimately approved for use in the 2009 Pacific sardine assessment. The aerial survey results were combined with the traditional surveys of Pacific sardine productivity in Southern California and added valuable information on the magnitude of the abundance in the Pacific Northwest. A portion of the 2009 Pacific sardine harvest guideline was set aside to allow for data collection and to off-set the costs of the survey. There are plans to continue the survey into the future with the hopes of creating a new, long-term, index of relative abundance.

Catch Shares. Rights-based fishery management based on allocation of authorized catch as shared (catch shares) is gaining national momentum as a management tool and has recently been adopted for management of West Coast groundfish trawl fisheries. Rights-based management is currently being considered for application to West Coast CPS finfish fisheries. This interest is in the early stages of consideration. Workshops and informal discussions have focused on lessons-learned in other CPS catch share programs around the world and the pros and cons of applying such a program to the West Coast.

Coastwide Sardine Research Cruise. In 2006, NMFS conducted the first coastwide research cruise of the California Current Large Marine Ecosystem including the sampling of CPS finfish spawning indices. The cruise was an extension of a long-standing survey conducted in California. Interest in a coastwide assessment grew as Pacific sardine populations grew and fisheries once again started in the Pacific Northwest. A coastwide cruise is planned for the spring of 2009. It is hoped that continued research coordination with Mexico and Canada at this year's Trilateral Sardine Forum will provide an opportunity for survey data throughout the stock's range.

The Fish

The Pacific Council's Coastal Pelagic Species (CPS) fishery management plan (FMP) specifies a management framework for northern anchovy, market squid, Pacific sardine, Pacific mackerel, and jack mackerel. In 2006, the CPS FMP was amended to include all krill species and to prohibit their harvest. This proactive Council recommendation was intended to protect krill's vital role in the marine ecosystem.

"Pelagic" species live in the water column as opposed to living near the sea floor. They can generally be found anywhere from the surface to 1,000 meters (547 fathoms) deep. Pacific sardine and Pacific mackerel are actively managed, meaning landings and markets are substantial enough to warrant annual assessment of stock status and fishery management. The three other species are either managed at the state-level or are landed in low numbers and are therefore monitored for potential elevation to active management in the future.

Pacific sardine (*Sardinops sagax*) are small schooling fish. At times, they have been the most abundant fish species in the California current, a highly productive current that extends up to 1,000 kilometers offshore from Oregon to Baja California. When the population of Pacific sardine is large, it is abundant from the tip of Baja California to southeastern Alaska and throughout the Gulf of California. In the north, sardines tend to appear seasonally. Sardines also form three (and possibly four) sub-populations. The northern

subpopulation of sardines is most important to U.S. commercial fisheries. Sardines may live as long as 13 years, but they are usually younger than five years old. Like anchovies, they are taken by a wide variety of predators. More information on current Pacific sardine abundance and population trends is available in the current CPS Stock Assessment and Fishery Evaluation (SAFE) Report. The report is available [online](#) or from the Council office.

Pacific (chub) mackerel (*Scomber japonicus*) range from Mexico to southeastern Alaska. They are most abundant south of Point Conception, California and usually appear within 20 miles offshore. The “northeastern Pacific” stock of Pacific mackerel is harvested by fishers in the U.S. and Mexico. Like sardines and anchovies, mackerel are schooling fish, and they may school with other pelagic species such as jack mackerel and sardines. They are also heavily preyed upon by a variety of fish, mammals, and sea birds.

Northern anchovy (*Engraulis mordax*) are small, short-lived fish that are typically found in schools near the surface. They are found from British Columbia to Baja California and have recently appeared in the Gulf of California. Northern anchovies are divided into northern, central, and southern sub-populations. The central subpopulation used to be the focus of large commercial fisheries in the U.S. and Mexico. Most of this subpopulation is located in the Southern California Bight, between Point Conception, California and Point Descanso, Mexico. (The Southern California Bight is an indentation along the coast of southern California that includes coastal southern California, the Channel Islands, and a section of the Pacific Ocean.) Northern anchovy are an important part of the food chain for other species, including other fish, birds, and marine mammals.

Jack mackerel (*Trachurus symmetricus*) are a schooling fish that range widely throughout the northeastern Pacific. They grow to about 60 cm and can live 35 years or longer. Much of their range lies outside the 200-mile U.S. Exclusive Economic Zone (EEZ). Small jack mackerel (up to six years of age) are most abundant in the Southern California Bight, where they are often found near the mainland coast and islands and over shallow rocky banks. Older, larger fish range from Cabo San Lucas, Baja California to the Gulf of Alaska, where they are generally found offshore in deep water and along the coastline to the north of Point Conception. Large fish rarely appear close to the southern shore. In southern California waters, jack mackerel schools are often found over rocky banks, artificial reefs, and shallow rocky coastal areas. They remain near the bottom or under kelp canopies during daylight and venture into deeper surrounding areas at night. Young juvenile fish sometimes form small schools beneath floating kelp and debris in the open sea. Jack mackerel in southern California are more likely to appear on offshore banks in late spring, summer, and early fall.

Small jack mackerel taken off southern California and northern Baja California eat large zooplankton, juvenile squid, and anchovy. Larvae feed almost entirely on plankton. The spawning season for jack mackerel off California extends from February to October, with peak activity from March to July. Little is known about the maturity cycle of large fish offshore, but peak spawning appears to occur later in more northerly waters.

Large predators like tuna and billfish eat jack mackerel, but adult jack mackerel are probably a minor forage source for smaller predators. Older jack mackerel probably do not contribute significantly to food supplies of marine birds because they are too large to be eaten by most bird species, and they school too deep for birds to reach them. They do not appear to be an important food source for marine mammals.

Market squid (*Loligo opalescens*) appear from the southern tip of Baja California to southeastern Alaska. They are most abundant between Punta Eugenio, Baja California and Monterey Bay, California. They are harvested near the surface, but they can appear to depths of 800 meters or more. They prefer the salinity of the ocean and are rarely found in estuaries, bays, or river mouths. Squid are short-lived (up to ten months). They are important as forage foods to many fish, birds, and mammals, such as king salmon, coho salmon, lingcod, rockfish, seals and sea lions, sea otters, porpoises, cormorants, and murre. For more information

From: <http://www.pcouncil.org/coastal-pelagic-species/background-information/>

on market squid life history, contact the Council office for a copy of the market squid Stock Assessment Review (STAR) report.

Stock Assessment and Fishery Evaluation (SAFE) Document

More information on cps stock abundance, populations trends, and fishery landings is available in the current [Stock Assessment and Fishery Evaluation \(SAFE Report\)](#). Please contact the Council office to obtain a printed copy.

The Fishery and Gear

In the 1940s and 1950s, about 200 vessels participated in the Pacific sardine fishery. Some of these boats are still fishing today.

Coastal pelagic species are harvested directly and as bycatch in other fisheries. Generally, they are targeted with “round-haul” gear including purse seines, drum seines, lampara nets, and dip nets. These species are also taken incidentally with midwater trawls, pelagic trawls, gillnets, trammel nets, trolls, pots, hook-and-line, and jigs.

Market squid are fished at night with the use of powerful lights, which attract the squid to the surface. They are either pumped directly from the sea into the hold of the boat, or caught with an encircling net.

Coastal pelagic species are found in the EEZs of Canada, Mexico, and the U.S., as well as in international waters outside the U.S. EEZ. Within the U.S. EEZ, sardines are caught by U.S. commercial fisheries, by party and charter boats, and by anglers. Beyond the U.S. EEZ, sardines are caught in Mexican and Canadian fisheries.

Most processors and buyers of CPS on the West Coast are located in California, mainly in Los Angeles, Santa Barbara- Ventura, and Monterey. Some are also located in the Columbia River port areas of Oregon and Washington. Most of the market squid and Pacific sardines caught in the U.S. are exported. Market squid are mainly exported to China, the United Kingdom, Japan, and Spain. Sardines are mainly exported to Japan, where they are used for human consumption and as bait for longline fisheries; and Australia, where they are used to feed farmed bluefin tuna. A very small amount of sardines landed in Oregon and Washington are sold to Portland-area restaurants. Mackerel are exported to Japan, the Philippines, and Malta for human consumption.

Management Cycle

Under the annual management cycle for CPS, every June a SAFE document is presented to the Council along with the current stock assessment for Pacific mackerel. At the June meeting, the Council adopts a harvest guideline for the fishery, which runs from July 1 through June 30. In November, as a supplement to the SAFE document, the current stock assessment for Pacific sardine is presented to the Council, and the Council adopts a harvest guideline for the January 1 through December 31 fishery. Detailed information on CPS fishery statistics, management history, harvest policy, and economics can be found in the [SAFE document](#). The annual management cycle is also described in [Council Operating Procedure 9](#).